



## COUNTY OF SAN LUIS OBISPO

### Department of Agriculture/Weights and Measures

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## **RESTRICTED MATERIALS PERMIT CONDITION #14A**

### **Metam Sodium/Potassium**

### **Tarped, Bedded Drip Irrigation or Spray Blade with Soil Cap Applications**

**Revised 4/11/2016**

#### **General Requirements**

1. These conditions apply to pesticides containing the active ingredient metam sodium or metam potassium. Users shall comply with product labeling, permit conditions, condition attachments and pesticide laws and regulation. When requirements differ, the most stringent requirement shall be followed, unless there is specific guidance about exceptions.
2. It is the responsibility of both the property operator and pest control business (PCB) to comply with product label instructions, pesticide regulations and permit conditions. Failure to comply may result in an administrative penalty consisting of a fine to one or both parties.
3. All complaints of pesticide exposure or unsafe conditions shall be reported to the Agricultural Commissioner as soon as possible and no later than the next workday.
4. The application block size is limited to 80 acres at one location within a 24-hour period. An application block is a field or portion of a field treated with a fumigant in any 24-hour period.
5. All applications must start no earlier than 1 hour after sunrise and end no later than 1 hour before sunset.
6. The permit applicant shall provide a Soil Fumigation Plan and site map. The plan and site map are conditions of the permit. Indicate the following information in your fumigation plan and site map.:
  - a. The time (within a 12-hour window) that each application is scheduled to commence.
  - b. Demonstrate that sufficient water is available for application, post-application water seals (if applicable), and offsite movement suppression requirements.
  - c. The site map must include:
    - i. The number, acreage and outline of proposed application block(s).
    - ii. The buffer zone size for each block and the location of the buffer zone edges.
    - iii. The application block dimensions.
    - iv. The buffer zone size and dimensions (feet) and approximate location of signs indicating buffer zones and treated field(s).
    - v. Roadways, rights-of-ways, and sidewalks or other permanent walking paths.
    - vi. The location of any wells within 100 feet of the proposed fumigation site/field.
    - vii. The location of all difficult to evacuate sites within ¼ mile of the fumigation site.

- viii. The location with a description of occupied structures and bystander areas within ½ mile of the fumigation site and all schools within 1 mile of the fumigation site.
  - ix. The location and distance to sensitive areas.
- 7. The Soil Fumigation Plan shall be submitted and approved and the fumigant added to the permit prior to submittal of the Notice of Intent (NOI). Please note it may take several days for the Soil Fumigation Plan to be approved; **submitting the plan a week prior to the NOI is recommended.**
  - 8. The calculations to determine the broadcast equivalent application rate shall be included in the Soil Fumigation Plan (see Calculating the Broadcast Equivalent Application Rate, page 10).
  - 9. The fumigating property operator is responsible for the fumigated ground until the ERP (early restricted period) is over and aeration is complete.
- 10. Additional conditions may be required by the Agricultural Commissioner and specified in supplemental permit conditions.**

#### **Drip Application, Tarps:**

- 1. Tarps are considered part of the application equipment and must be kept in good repair throughout the application. Tape used for repairs must be of a type compatible with the tarp used for the application.
- 2. Metallized tarps are not allowed to be used.
- 3. When tarps are used that qualify for an US EPA buffer zone credit, the tarp must not be perforated until a minimum of 9 days (216 hours) have elapsed after the application is complete, and must not be removed until a minimum of one (1) day (24 hours) after perforation, unless a weather condition exists which necessitates early tarp perforation or removal as specified by the label.

#### **Spray Blade Application with Soil Cap:**

- 1. All application equipment must be inspected immediately prior to beginning the application to assure it is in good working condition.
- 2. The treated area must be covered with at least 6 inches of untreated soil, either as a result of incorporating the material to this depth, or by applying a cap of untreated soil.

### **Notice of Intent (NOI)**

1. NOIs must be submitted by 2:00 pm, 2 days (48 hours) prior to the proposed application. NOIs for applications planned for Sundays or Mondays must be submitted no later than 2:00 pm on the previous Thursday.
2. For multiple blocks fumigated sequentially, submit one NOI with a block treatment schedule or a separate NOI for each block.
3. A valid recommendation from a registered Pest Control Adviser shall be submitted before the NOI is accepted and the application is allowed.
4. In addition to information required in Title 3 CCR 6434(b), the following information must be submitted with the NOI:
  - a. The certified applicator's 24-hour contact telephone number.
  - b. A copy of the completed Fumigation Notice Form (if applicable).
  - c. A copy of the completed Notification Log with a site map of adjacent sites numbered to correspond to the Notification Log (if applicable).
  - d. A copy of written permission to allow a buffer zone to extend onto adjoining property (if applicable).
  - e. Copy of vacating agreement(s) for the resident(s) of any structure within the buffer zone (if applicable).
  - f. The buffer zone size and duration if greater than required by the product label.
5. The fumigation cannot begin sooner than the time listed on the NOI and must begin within 12 hours of the scheduled time. Any change in the NOI, including but not limited to acreage, scheduling, or buffer zones, must be in writing for approval by the Agricultural Commissioner. The 48-hour waiting period may be waived by the Agricultural Commissioner.

### **Emergency Preparedness and Response Measures**

1. If product label requires Emergency Preparedness and Response Measures are triggered, then the certified applicator must declare on the Soil Fumigation Plan which method of emergency preparedness will be followed; Site Monitoring or Neighbor Notification.
2. If site monitoring is chosen as the method of Emergency Preparedness, the field must be monitored eight times during the duration of the buffer zone. Four of those eight times must be within 1 hour of each midnight and noon.
3. The Emergency Preparedness and Response site monitoring must be conducted as follows:
  - a. Monitoring must be done at the outer edge of the buffer zone.
  - b. Monitoring must be done in the direction of bystanders, residences and businesses, and in the direction that the wind is blowing.
  - c. Monitoring must be done at each side of the buffer zone perimeter on calm days.
  - d. The person conducting the monitoring must have full olfactory capabilities (e.g. must not be impaired by allergies or head colds).

4. If Neighbor Notification is selected as the method of Emergency Preparedness, the Response Information for Neighbors must be provided in both English and Spanish.
5. The Agricultural Commissioner must be notified immediately if the Emergency Response Plan is implemented. After normal working hours, leave a message at 781-5910.
6. Additional information may be required on certain sites.

### **Application Restrictions Near Schools, Day Care Centers and Preschools**

1. Schools are considered occupied when they are in session, scheduled to be in session and/or hosting public events at the school site while the buffer zone is in effect.
2. A school is defined as an institution for the instruction of children from kindergarten through high school. Also included are daycare centers and preschools, as defined in the Health and Safety Code section 1596.76. "Day care center" means any child day care facility other than a family day care home, and includes infant centers, preschools, extended day care facilities, and school age child care centers.
3. Day care centers and other difficult to evacuate sites are listed at the following website: <http://ccld.ca.gov/PG3581.htm> For example; select "child care center" as the facility type and the ZIP code, city, county or area code to find the names and addresses of the child care centers in a specific area.
4. When made to more than 5 acres, applications are prohibited within ½ mile of a school property when school is in session or scheduled to be in session within 36 hours after injection of the fumigant has been completed.
5. When made to 5 acres or less, applications are prohibited within ¼ mile of a school property when school is in session or is scheduled to be in session within 36 hours after injection of the fumigant has been completed.

### **Buffer Zones**

The buffer zone is measured from the perimeter of the application block. Restrictions apply from the start of the application until the expiration of the buffer zone period:

1. Buffer zone credits are not allowed.
2. Buffer zones are in effect at the start of the application and shall remain in effect for a minimum of 48 hours after the application is complete.
3. Non-handlers, including but not limited to fieldworkers, residents, pedestrians, lunch truck personnel, and other bystanders shall be excluded from the buffer zone during the buffer zone period.

4. Buffer zones shall not contain occupied structures. All structures within the buffer zones shall be vacated and vacating agreements must be signed by the resident/property operator and submitted to the Agricultural Commissioner with the NOI. See Vacating Agreement.
5. Buffer zones shall not extend onto adjoining properties, unless written permission has been obtained from the adjoining resident/property operator and submitted to the Agricultural Commissioner with the NOI. See Permission for a Fumigant Buffer Zone to Extend onto Adjoining Property form.
6. Buffer zones shall not extend onto bystander areas. A bystander area is any area used or visited by people on a daily basis, including parks, playgrounds, lakes, reservoirs, bus stops, and other similar areas where groups of people visit, or other areas identified by the Agricultural Commissioner.
7. The Agricultural Commissioner may deny or add restrictions for buffer zones that extend onto or across transit sites (streets, highways, railroads, etc.).
8. The buffer zone distance for drip irrigation and spray blade applications shall be determined by using the broadcast equivalent application rate which must be calculated by using the formulas provided on the Calculating the Broadcast Equivalent Application Rate form. Please show your calculations on the bottom of the page
9. Determine the buffer zone distance by using the buffer zone tables on the label and the minimum buffer zone;
  - a. Metam sodium drip and spray blade applications require a minimum buffer zone of 100 feet
  - b. Metam potassium drip and spray blade applications require a minimum buffer zone of 90 feet.

### **Posting Requirements**

1. The supervising certified applicator shall ensure that both the treated field and the buffer zone around the treated field shall be posted with warning signs, no sooner than 24 hours prior to the start of the application.
  - a. Buffer zones must be posted whether they exist on the property under the control of the fumigating operator or on adjoining property.
  - b. The buffer zone warning signs shall be placed along the outside perimeter of the buffer zone; at all points of entry, corners and at intervals of every 200 feet.
  - c. If multiple contiguous blocks are fumigated within a 14 day period, the entire periphery of the contiguous blocks' buffer zones may be posted. If posting multiple contiguous blocks (Posting Requirements 1.b. above), then the signs must remain posted until the last buffer zone period expires.
  - d. The Agricultural Commissioner may allow exceptions to posting requirements as specified in the supplemental permit conditions.
2. The property operator shall maintain the posting of the warning signs around the treated field after the application, and remove the signs within 3 days of the expiration of the Entry Restricted Period.

3. The property operator shall maintain the posting of the buffer zone for 48 hours (duration of the buffer zone), and remove the buffer zone signs within 3 days after the end of the buffer zone period and prior to allowing workers into the buffer zone area.

### **Application Method Requirements**

#### **Drip Application, Chemigation System:**

1. The grower or grower's representative, who has the authority to control the activities at the site and is knowledgeable about the irrigation system, shall be present at the treatment site during the application. This representative shall be trained in general pesticide safety and product label in accordance with California Code of Regulations (CCR) Section 6724.
2. Prior to the application, a test of the chemigation system shall be performed by running water through the system to check for pressure variation, clogged emitters, and leaks. The pressure must not exceed the pressure rating of the drip tape, and the pressure variation in the drip tape throughout the field must be less than three pounds per square inch (3 psi). Drip system must be free of leaks and clogged emitters.
3. For tarped applications, after completing the chemigation system test and repairing any leaks prior to the application, all row end drip tape connections, lay-flat and fittings must be covered by tarpaulin consistent with that used for the application.
4. During the application, a pressure gauge shall be employed on each block to be fumigated to ensure that the burst strength or connection strength does not exceed the drip tape manufacturer's maximum pressure specification.
5. After application, the drip system must be flushed with a volume of water at least three times the volume of the mainline and laterals of the drip system.
6. A field monitor, trained in general pesticide safety and on the product label in accordance with CCR Section 6724, must be at the application site at all times during the application in order to identify any leaks or product puddling at the soil surface.
7. Do not allow treatment solution to accumulate on the soil surface. If puddling or run-off occurs, discontinue the application immediately, and cover with soil or with type of tarp used for the application.
8. When modifying an irrigation block to reduce the application block size within a field, the drip tape and the tarp must be cut to clearly define the edge of the treatment area. To prevent leaks, crimp or tie off the drip tape up stream of the cut.

## **Application Site Monitoring**

1. Monitoring criteria prior to and during the application must be recorded on the form “Monitoring During Application (Field Fumigation)”. Monitoring criteria following the application must be recorded on “Post-Application Monitoring Form”. Equivalent forms may be substituted. Attach all forms to the Fumigation Management Plan (FMP) Post-Application Summary.
2. If monitoring indicates a change that could result in offsite movement (e.g. increased or greatly decreased wind speed, change in wind direction toward occupied structures) the certified applicator supervising the application must be ready to carry out the requirements described in the Emergency Response Plan located in the FMP and conducted as follows:
  - a. Monitoring must be done at the outer edge of the buffer zone.
  - b. Monitoring must be done in the direction of the bystanders, residences, and businesses, and in the direction that the wind is blowing.
  - c. Monitoring must be done in all directions on calm days (calm day is when wind speeds are forecast to drop below 5 mph and/or when field observation confirms the same).
  - d. Persons monitoring must have full olfactory capabilities (e.g. not impaired by allergies or colds).
  - e. Handlers, performing fumigant site monitoring tasks outside the buffer zone, must not wear air purifying respirators.
3. The Agricultural Commissioner must be notified immediately if the Emergency Response Plan is implemented. After normal working hours, leave a message at 781-5910.
4. Pre-Application:
  - a. Immediately prior to application, monitor and document:
    - i. Wind speed and direction.
    - ii. Soil and air temperature at the application site immediately prior to application.
5. During Application:
  - a. Every hour until the application is complete, monitor and document:
    - i. Wind speed and direction
    - ii. Any unusual condition observed at or adjacent to the application (e.g. odor, reported symptoms of exposure, equipment failure, spill).
6. Post Application:

On the day of application, the certified applicator supervising the application must ensure that a trained handler is at the site continually from 1 hour before sunset through 1 hour after sunset, in addition to the periods required to conduct post-application monitoring. If the trained handler is an employee, he or she must have the authority to initiate the Emergency Response Plan whenever needed, or must be able to immediately contact the person who has that authority.

  - a. For 12 hours, monitor and document:
    - i. Wind speed and direction
    - ii. Air temperature
    - iii. Any unusual conditions observed at the worksite (e.g., dry soil conditions, odor or irrigation equipment failure) and whether sensory irritation is experienced.
    - iv. Monitoring must be done in all directions on calm days.

- v. Specific monitoring intervals are required as shown in Tables 1 and 2.

Table 1. Frequency of Post-Application Monitoring Required Near “Schools”

Distance to Perimeter of Nearest School Property	Monitoring Interval
½ mile or less and school is scheduled to be in session (application block size must be 5 acres or less)	Every hour
Greater than ½ mile and up to 1 mile and school is scheduled to be in session	Every 2 hours

Table 2. Frequency of Post-Application Monitoring Required Near “Occupied Structures” and “Bystander Areas”

Distance to Perimeter of Nearest Occupied Structure or Bystander Area	Monitoring Interval
¼ mile or less	Every hour
Greater than ¼ mile	Every 2 hours

### **Water Seals and Sensory Irritation/Odor Mitigation**

1. In addition to the requirements of the label, the fumigation property operator and the Pest Control Business (when applicable) are jointly responsible to mitigate sensory irritation and odors.
2. Post-application water is not required for spray blade applications because a 6-inch soil cap must be used. However, the operator of the property should have sufficient water or untreated soil available and have the means to apply them at any time in response to odor or illness.
3. The sprinkler water supply for water seals for sensory irritation and/or odor mitigation must be separated from the treated water by a check valve or equivalent DPR approved device. If sensory irritation or odors are detected, the application must be stopped and at least one water seal must be **immediately** applied to the application block.
  - a. Sprinkler irrigation for sensory irritation/odor mitigation must be placed in the field, hooked up and functional prior to the start of the application.
  - b. The sensory irritation/odor mitigation sprinkler system must be able to begin delivering water to the application block beginning within **30 minutes** of any detection of sensory irritation or odor. This water seal must be applied to the entire application block.



**RESTRICTED MATERIALS PERMIT CONDITION #14 A**  
**Metam Sodium/Potassium**  
**Tarped, Bedded Drip Irrigation or Spray Blade with Soil Cap Applications**  
**Revised 4/11/2016**

**Additional Conditions for Sensitive Sites**

- ☐ Neighbor notification of the application
- ☐ Site monitoring required during the buffer zone duration
- ☐ Acreage limited to \_\_\_\_\_ acres per day

This permit condition is for Permittee: \_\_\_\_\_ Site: \_\_\_\_\_

Permit Applicant: \_\_\_\_\_ Date: \_\_\_\_\_

Issuing Officer: \_\_\_\_\_ Date: \_\_\_\_\_

# CALCULATING THE BROADCAST EQUIVALENT APPLICATION RATE

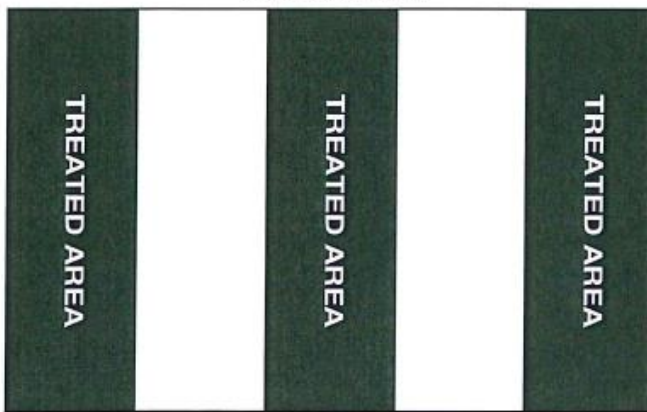
To calculate the broadcast equivalent rate for bedded or strip applications the following information is needed:

- gallons of product per treated acre
- strip or bed bottom width (inches)
- center-to-center row spacing (inches)
- application block size (acres)

Gallons of product **per treated acre** is the ratio of total amount of product applied to the size of the **total area treated** (e.g., the rate of product applied in the bed). For bedded or strip applications, the **total area treated** is the summation of the area (i.e., length x width) of each treated bed bottom or strip that is located within the application block as shown by the black areas in Figure 1 (e.g., black areas are 0.6A or 60% of the area within the application block). The area of the space between the beds/strips is not factored in the total area treated.

The **application block size** is the acreage within the perimeter of the fumigated portion of a field (including furrows, irrigation ditches, roadways). The perimeter of the application block is the border that connects the outermost edges of total area treated with the fumigant product.

Figure 1. Bedded/Strip Application  
(1 acre application block)



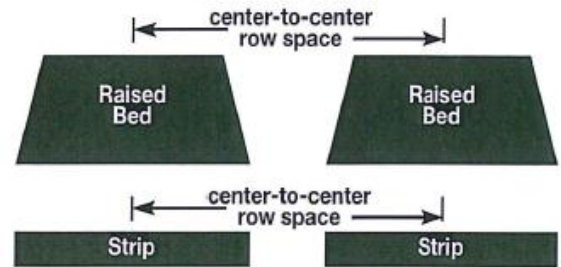
Space Between Beds/Strips is not treated

The "broadcast equivalent rate" must be calculated with the following formula:

$$\text{Broadcast equivalent rate (gallons product/acre)} = \frac{\text{strip or bed bottom width (inches)}}{\text{center-to-center row spacing (inches)}} \times \text{gallons product/ treated acre applied in the strip or bed}$$

- The bed width must be measured from the bottom of the bed.
- The center-to-center row spacing must be calculated as shown in Figure 2.
- If there are any ditches, waterways, drive rows and other areas that are not fumigated that are in the application block, multiply the above broadcast equivalent equation by (total area of strips or beds + row spacing)/(application block size). A sample calculation is provided.

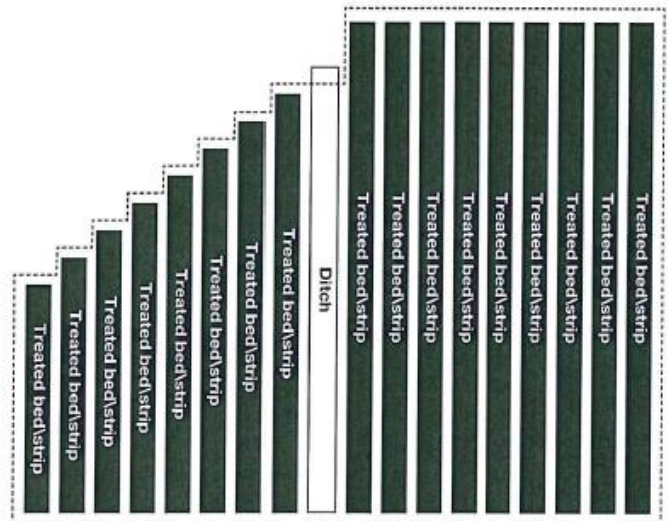
Figure 2. Center Row Spacing



Sample broadcast equivalent rate calculation

Assumptions:

- Application method is shank bedded
- Bed width is 30 inches (measured at the bottom of bed)
- Center-to-center row spacing is 60 inches
- 75 gallons of product per treated acre is applied in the beds
- Total application block size is 10 acres
- Ditch in the middle of application block is 0.25 acres
- Area of beds + row spacing is 9.75 acres



$$\begin{aligned} \text{broadcast equivalent rate (gallons product/acre)} &= \frac{\text{strip or bed bottom width (inches)}}{\text{center-to-center row spacing (inches)}} \times \frac{\text{area of strip or bed + row spacing}}{\text{application block size}} \times \text{Gallons product/ treated acre applied in the bed} \\ &= \frac{30 \text{ inch width beds}}{60 \text{ inch row spacing}} \times \frac{9.75 \text{ acres}}{10 \text{ acres}} \times 75 \text{ gals product/ treated acre} \\ &= 36.6 \text{ gals product/acre} \end{aligned}$$

PLEASE SHOW CALCULATIONS BELOW

GROWER: \_\_\_\_\_  
SITE ID No.: \_\_\_\_\_

## Metam Sodium / Potassium Pre-Application and Application Monitoring

Wind Speed and Direction  
(at 4-6 feet above ground): \_\_\_\_\_

Soil Temperature (3" depth): \_\_\_\_\_

Soil Moisture: \_\_\_\_\_

Air Temperature: \_\_\_\_\_

Buffer Zone Distance (Feet): \_\_\_\_\_

**Table 1. Hourly Environmental Conditions During Application**

Date:	Time	Wind Speed (MPH)	Wind Direction (from)	Unusual Conditions
Hour 1				
Hour 2				
Hour 3				
Hour 4				
Hour 5				
Hour 6				
Hour 7				
Hour 8				
Hour 10				
End				

Grower: \_\_\_\_\_  
Site ID No.: \_\_\_\_\_

## Metam Sodium / Potassium Post Application Field Monitoring

Table 3. Post-Application Field Monitoring

Date:	Time	Air Temp	Wind Speed (MPH)	Wind Direction (from)	Unusual Conditions
1 hour before sunset Day 1					
1 hour after sunset Day 1					
1 hour post application					
2 hours post application					
3 hours post application					
4 hours post application					
5 hours post application					
6 hours post application					
7 hours post application					
8 hours post application					
9 hours post application					
10 hours post application					
11 hours post application					
12 hours post application					

Note: Monitoring is required for a 12-hour period after application. Monitoring is required **every hour** for sensitive areas of areas between ½ - 1 mile of school property when school is in session (or scheduled to be in session while the buffer zone is in effect). Monitoring is required **every two hours** if the application is between ¼ - ½ mile from an occupied structure of bystander area.